

Applicant : Stephen A. Mastro et al.
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IN THE CLAIMS

1. (Amended) A watertight door seal integrity verification assembly comprising:
 - a watertight door in a door frame;
 - a gasket disposed in a channel formed around ~~the~~ a periphery of ~~said~~ the door;
 - a closure edge of ~~said~~ the door frame positioned to compress ~~said~~ the gasket upon latching ~~said~~ the door shut;
 - a transmission line embedded in ~~said~~ the gasket, the transmission line ~~and~~ operatively coupled to a time domain reflectometry device; and
 - a display ~~assembly responsive to said~~ associated with the time domain reflectometry device to indicate ~~the status of the~~ a gasket compression status.
2. (Amended) A watertight door seal integrity verification assembly as in claim 1, wherein ~~said~~ the transmission line is a twisted pair of insulated wire.
3. (Amended) A watertight door seal integrity verification assembly as in claim 1, wherein ~~said~~ the transmission line is a coaxial cable.
- 4-6. (Canceled)
7. (New) The watertight door seal integrity verification assembly of claim 1 wherein the gasket compression status includes a presence of an improper gasket compression.
8. (New) The watertight door seal integrity verification assembly of claim 7 wherein the gasket compression status includes a location of the improper gasket compression.
9. (New) The watertight door seal integrity verification assembly of claim 1 wherein the display is located at a location remote from a location of the gasket.

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10. (New) A watertight door seal integrity verification system comprising:
- a gasket configured to be disposed around a periphery of a watertight door, the gasket configured to be compressed upon closing of the watertight door;
 - a transmission line embedded in the gasket; and
 - a time domain reflectometry device configured to be operatively coupled to the transmission line.
11. (New) The system of claim 10 further comprising a display associated with the time domain reflectometry device to indicate a gasket compression status.
12. (New) The system of claim 11 wherein the gasket compression status includes a presence of an improper gasket compression.
13. (New) The system of claim 12 wherein the gasket compression status includes a location of the improper gasket compression.
14. (New) The system of claim 11 wherein the display is located at a location remote from a location of the gasket.
15. (New) The system of claim 10 wherein the transmission line is a twisted pair of insulated wire.
16. (New) The system of claim 10 wherein the transmission line is a coaxial cable.
17. (New) A method of verifying watertight door seal integrity, the method comprising:
- providing a gasket configured to be disposed around a periphery of a watertight door, the gasket configured to be compressed upon closing of the watertight door;
 - embedding a transmission line in the gasket;
 - coupling the transmission line to a time domain reflectometry device;
 - closing the watertight door so as to at least partially compress the gasket;

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using the time domain reflectometry device to detect an impedance change along the transmission line;

determining a gasket compression status based upon the detected impedance change; and
displaying the determined gasket compression status.

18. (New) The method of claim 17 wherein using the time domain reflectometry device to detect an impedance change along the transmission line comprises using the time domain reflectometry device to transmit at least one energy pulse along the transmission line and detect reflected energy.

19. (New) The method of claim 17 wherein determining the gasket compression status comprises determining whether the gasket has an improper gasket compression based upon the detected impedance change.

20. (New) The method of claim 19 wherein determining the gasket compression status comprises determining a location of the improper gasket compression based upon the detected impedance change.

21. (New) The method of claim 17 further comprising using the time domain reflectometry device to determine a baseline gasket compression measurement when the watertight door is properly sealed; and

wherein determining the gasket compression status comprises determining the gasket compression status based upon the baseline gasket compression measurement and the detected impedance change.